East Yuba Roadless Area

between 1858 and 1980; about 200 active placer and lode claims were recorded

with the U.S. Bureau of Land Management in 1982. Lode properties active in

1982 were the Sisson, Big Boulder, Four Hills, and Empire (nos. 31, 32, 33,

encompass approximately 74 acres of patented land in and adjacent to the East

mines (nos. 31, 36, 37, and 38), is approximately 6,600 oz of gold and 9,400

of the roadless area, yielded about 16,000 oz of gold and 4,100 oz of silver

from 1896 to 1953. These and other vein-type deposits are typically massive

white quartz ranging from a few feet to about 2,400 ft along strike and from

0.5 to 20 ft thick. Gold in the veins occurs as disseminated free gold and is

associated with disseminated pyrite. Distribution of gold in the quartz veins

is typically sparse and erratic and reported to be in shoots (MacBoyle, 1920a,

stockworks of quartz veinlets along a contact between an aplite dike and

as 20 ft thick. Gold is typically associated with pyrite and arsenopyrite at the Big Boulder mine and with pyrite, chalcopyrite, and sphalerite at the

The Sierra Iron "mine" (no. 34) consists of at least 18 contact

About 80 acres of locally gold-bearing bench and skim bar gravels occur

Intermittently along Lavezzola, Sunnyside, Spencer, and Pauley Creeks.

Properties including parts of these gravels are the Whipoorwill, Rebate, Upper

Lavezzola Creek, Dragonfly, Jay Bird, and Upper Pauley Creek (nos. 24, 25, 26,

29, 30, and 40). Since 1905, an estimated 185 oz of placer gold was mined

About 650 mining claims were located in the West Yuba Roadless Area

along Lavezzola Creek at the Pot Luck I and II, Little Bear, and Dragonfly properties (nos. 27, 28, and 29). Gold content of the gravels is low and

metasomatic magnetite pods near intrusive contacts in the area between Spencer

and Hawley Lakes in the northern part of the East Yuba Roadless Area. Pods range from about 1 x 4 ft to 180 x 200 ft and average 21 percent total iron

phyllite. The stockworks range from a few feet to 400 ft long and are as much

The Sisson and Big Boulder mines (nos. 31 and 32) are on irregular

oz of silver. The Four Hills mine, located just outside the northeastern part

Total production from the Sisson, Willoughby, Lone Star, and Empire lode

and 38). The patented Lone Star and Empire properties (nos. 37 and 38

Approximately 800 claims were located in the East Yuba Roadless Area

STUDIES RELATED TO WILDERNESS

The Wilderness Act (Public Law 88-577, September 3, 1964) and related acts require the U.S. Geological Survey and the U.S. Bureau of Mines to survey certain areas on Federal lands to determine their mineral values, if any, that may be present. Results must be made available to the public and be submitted to the President and the Congress. This report presents the results of a mineral resource potential survey of the East Yuba Roadless Area, in Taho National Forest, Sierra County, and the West Yuba Roadless Area, in Plumas and Tahoe National Forests, Plumas and Sierra Counties, California. The East Yuba (5264) and West Yuba (5172) Roadless Areas were classified as further planning areas during the Second Roadless Area Review and Evaluation (RARE II) by the U.S. Forest Service, January 1979.

BOUNDARY OF AREA HAVING A LOW TO MODERATE POTENTIAL FOR LODE GOLD AND

BOUNDARY OF AREA HAVING A LOW TO MODERATE POTENTIAL FOR CHROMITE AND

BOUNDARY OF AREA HAVING A LOW TO MODERATE POTENTIAL FOR GOLD, SILVER

to discussion in text

BENEATH VOLCANIC ROCKS

MAGNETITE OCCURRENCE

AND ASSOCIATED BASE METALS IN VEINS--Boundary follows perimeter

AREA HAVING A LOW POTENTIAL FOR PLACER GOLD IN TERTIARY GRAVEL

AREA HAVING A MODERATE TO HIGH POTENTIAL FOR PLACER GOLD IN TERTIARY

MINES AND PROSPECTS--Numbers are keyed to table 1

Lode mine--Recorded or apparent production

Placer mine--Recorded or apparent production

Table 1.--Mines and prospects in the East Yuba and West Yuba

Roadless Areas and vicinity

West Yuba Roadless Area

Property

New California mine

Golden Scepter mine

Sebastapol prospect

Mammoth No. 1 prospect

Poker Flat mine

Tennessee mine

Gibraltar mine

(Reese mine)

Herkimer mine

D-B-K prospect

Buckshot mine

Telegraph mine

ol Wood mine

Deep Moon mine

Crescent mine

Progressive mine

Excelsior-Monte Cristo mines²

One Day at a Time/Easy Does It mine

Upper Lavezzola Creek prospect

East Yuba Roadless Area

Craycroft-Wideawake mine

Craycroft Diggings mine

Whipoorwill prospect

Dragonfly mine

Jav Bird mine

Big Boulder "mine

Sierra Iron 'mine'

Gold King prospect

Willoughby mine

Garibaldi mine

Upper Pauley Creek prospect

CORRELATION OF MAP UNITS

TERTIARY

DEVONIAN

DEVONIAN(?)

ORDOVICIAN(?)

DESCRIPTION OF MAP UNITS

lahars, basalt flows, and basalt plugs

phyllite, quartzite, and metachert

clastic rocks and black chert

(1981) Shoo Fly Formation

APPROXIMATE BOUNDARY OF ROADLESS AREA

APPROXIMATE LIMIT OF GEOLOGIC MAPPING

VOLCANIC ROCKS (TERTIARY) -- Consist of andesite flows, andesitic

GRAVEL (TERTIARY) -- Gold-bearing fluvial gravel, sand, and silt in

SERPENTINITE (MESOZOIC AND (OR) PALEOZOIC) -- Serpentinite, talc

Tectonic melange--Consists of blocks of limestone, greenstone,

Quartzite, sandstone, phyllite, chert, and limestone--Interbedded

sheared conglomeratic sandstone, and chert. Equivalent to middle

quartzite, lithic sandstone, and muscovite phyllite with local

chert and limestone. Equivalent to lower unit of Schweickert's

schist, and small pods of remnant olivinite and peridotite

Mz Pz m METAMORPHIC ROCKS (MESOZOIC AND (OR) PALEOZOIC) -- Consist of

SIERRA BUTTES FORMATION (DEVONIAN) -- Metamorphosed silicic

SHOO FLY COMPLEX (DEVONIAN? TO ORDOVICIAN?) -- Divided into:

unit of Schweickert's (1981) Shoo Fly Formation

CONTACT--Dashed where approximately located; dotted where concealed

FAULT--Dashed where approximately located; dotted where concealed;

pyroclastic rocks with local lenses of fine-grained

abandoned channels that are now perched above level of present-

metagabbro, amphibolite, hornblende gneiss, metavolcanic rocks,

TO

Empire mine

Tg

Dsb

Unconformity

DOsm

DOsq

Sisson mine

1-"mine" indicates historical name although no production is recorded;

Commodities

placer gold lode gold

lode gold, silver

placer and lode gold

lode gold, silver

lode gold, silver,

lode gold, silver

CENOZOIC

MESOZOIC

AND (OR)

PALEOZOIC

PALEOZOIC

of drainage basin. Letter indicates sampling site and is keyed

SILVER--High potential for lode gold and silver exists locally at

and a low to high potential for additional placer gold and lode gold and silver resources. There is a low to moderate potential for chromite resources in both roadless areas. About eighteen small magnetite occurrences are in the northern part of the East Yuba Roadless Area, but geophysical data provide no evidence of a potential for undiscovered iron resources.

Both lode and placer gold mines and prospects are present in and adjacent to the East Yuba Roadless Area. Placer gold deposits include Quaternary bench subeconomic gold resources, at a gold price of \$400 per troy oz, in bench gravel are present at the Whipoorwill, Rebate, and Upper Lavezzola Creek prospects and the Dragonfly and Jay Bird mines. Active stream channnel placers include the Pot Luck I and II and the Little Bear mines, both of which have produced placer gold and were being mined at the time of this study. The Upper Pauley Creek prospect includes both bench and active stream deposits; no resources were identified, and development of the bench deposits is unlikely. Approximately 500,000 yd of active stream deposits that locally contain some gold occur along Lavezzola and Pauley Creeks. The major drainages have sporadic occurrences of placer gold that are prospected on a

The Sierra Iron mine consists of scattered skarn-type occurrences of There is a low potential for placer gold in Tertiary channel gravel at Geochemical sampling revealed a low to moderate potential for small vein-

type deposits of base and precious metals in three drainage basins in the northern, central, and southern parts of the roadless area. There is a low to moderate potential for chromite and gold resources in ultramafic rocks in the southern and western parts of the roadless area. There is no indication of a potential for coal, oil and gas, or geothermal resources.

West Yuba Roadless Area

Placers in and adjacent to the West Yuba Roadless Area consist of

segments of gold-bearing Tertiary channel deposits and Quaternary bench gravels. In the study area, identified, subeconomic gold resources exist at the Sol Wood and One Day At A Time/Easy Does It mines, and gold resources are inferred at the New California, Tennessee, Gibraltar, Deadwood Diggings Golden Scepter, Bunker Hill, Herkimer, and Telegraph mines and the Golden King prospect. On the basis of results of sample analyses and history of past production, further examination of sites without identified resources is warranted. The Excelsior-Monte Cristo, Craycroft-Wideawake, and Craycroft Diggings mines, adjacent to the study area, also contain identified subeconomic Tertiary placer gold resources. Identified gold resources in Quaternary bench deposits are present at the Clark Canyon and Deep Moon mines; the latter was being mined in 1982. Gold resources at the two properties are subeconomic and marginally economic, respectively, at a gold price of \$400 per troy oz. Subeconomic resources are present in Quaternary bench gravel at the Sample analyses and (or) histories of past production indicate that further work on gold-bearing veins at the Poker Flat and Telegraph mines and at the Mammoth No. 1 and Sebastapol prospects is warranted. Disseminated, There is a low potential for placer gold in Tertiary gravel beneath the extensive, locally thick sequences of volcanic rocks that cover a large part of the West Yuba Roadless Area. The major drainages contain sporadic Geochemical sampling of the West Yuba Roadless Area indicates three drainage basins having a low to moderate potential for small deposits of vein-A low to moderate potential exists for gold resources in fissure-filling quartz veins and for chromite in serpentinite in the Melones fault zone. mately 1,000 tons of chromite were produced during World Wars I and II

The East Yuba Roadless Area encompass 17,600 acres in the Tahoe National Forest, Sierra County, Calif. (fig. 1). The West Yuba Roadless Area encompasses 14,900 acres in the Tahoe National Forest, Sierra County, and 6,000 acres in the Plumas National Forest, Plumas and Sierra Counties (fig. 1). The roadless areas are on the west side of the crest of the Sierra Nevada, a few miles north of the North Fork of the Yuba River. California Highway 49 parallels the river between Downieville, located about 2 mi south of the southern boundaries of the roadless areas, and Sierra City, located about 5 mi southeast of the East Yuba Roadless Area. Access to the roadless areas is provided from all sides by graded roads and jeep trails. An unpayed road north from Downieville also provides access to the corridor between the two areas. The site of Poker Flat, the gold rush town made famous by Bret

INTRODUCTION

The East Yuba and West Yuba Roadless Areas were mapped in 1980 and 1981 (J. R. Bergquist, unpub. data, 1981). Bedrock in the roadless areas is mostly Paleozoic metasedimentary and metavolcanic rocks that are locally overlain by gold-bearing Tertiary fluvial gravel and volcanic rocks. The north-trending Melones thrust-fault zone is in the western part of the West Yuba Roadless Area and separates the Pennsylvanian Calaveras Formation on the west from the Ordovician(?) to Devonian(?) Shoo Fly Complex on the east. The fault zone varies in width from about 2,500 ft near Poker Flat to about 6,500 ft in the southern part of the West Yuba Roadless Area. Ultramafic rocks within the fault zone locally host layered, podiform, and disseminated chromite deposits. Lode gold occurs in fissure-filling quartz veins associated with serpentinite wallrocks in the fault zone. Examples of these gold occurrences in and near the West Yuba Roadless Area include the Sebastapol prospect and the Poker Flat and Telegraph mines (nos. 2, 8, 14). Schweickert (1981) informally divided the Shoo Fly into the "lower" "middle", and "upper" lithotectonic units. Only the lower two units of the Shoo Fly occur in this region. The lower Shoo Fly unit, which is immediately east of the Melones fault, consists of interbedded quartzite, lithic limestone. The middle Shoo Fly unit is a tectonic melange that includes blocks of limestone, greenstone, sheared chaotic conglomeratic sandstone, gabbro, chert, and elongate lenses of serpentinite that typically parallel the contact with the lower Shoo Fly unit. The middle Shoo Fly unit in the eastern part of the East Yuba Roadless Area includes elongate pods of serpentinite and

to the Johnsville mining district, which is located a few miles north of the Four Hills mine. Seven gold-producing lode mines within the belt of goldquartz veins are inside or adjacent to the East Yuba Roadless Area. Locally overlying the Paleozoic units are remnants of Eocene (Tertiary) gold-bearing fluvial channel and flood-plain deposits that are mostly covered by volcanic rocks. Channel segments are as much as 4,500 ft long, 1,500 ft wide, and 160 ft thick. Twelve gold-producing placer mines in and adjacent to the West Yuba Roadless Area were developed in segments of Tertiary channel

Thick sequences of Tertiary pyroclastic rocks that are mostly andesitic lahars overlie the Eocene gravel and large areas of the Paleozoic rock units.

A geochemical survey of the East Yuba and West Yuba Roadless Areas was

done in 1980 and 1981. The analytical data are reported in Page and Bergquist (1982), and a map showing sample locations and magnitudes of geochemical anomalies was prepared by Page-Nedell and Bergquist (1984 There are two locations, discussed below, where geochemical anomalies in stream sediment suggest mineralization, and five locations where anomalies in panned concentrate suggest mineralization. Anomalous amounts of silver, gold, copper, lead, antimony, arsenic, and tungsten found in the geochemical samples are associated with precious-metal vein deposits (Rose and others, 1979, p. Areas with anomalous amounts of one or more metallic elements include: Lavezzola Creek anomaly (area A). At the north end of the East Yuba Roadless Area, a small drainage basin contains anomalous silver, copper, and manganese

in the stream-sediment sample. This suite of elements is related to

Roadless Area. Anomalous concentrations of silver, gold, lead, and antimony were found in the panned concentrate and silver, copper, lead, and manganese in the stream sediment. Although the sampling site is within the roadless area, most of the drainage basin is outside the study area. These suites of elements are related to hydrothermal precious-metal vein-type mineralization. Pauley Creek anomaly (area C). In the East Yuba Roadless Area, panned concentrate from a stream that flows westward past the Willoughby mine into Pauley Creek contains anomalous silver, copper, and lead. This suite is related to hydrothermal precious-metal vein deposits. Mineralization at the Willoughby mine may have contributed to the anomaly. Hog Gulch anomaly (area D). Panned concentrate from a drainage basin east of Mount Fillmore in the West Yuba Roadless Area has anomalous silver, arsenic,

Poker Flat anomaly (area E). The area sampled is in the northern part of the West Yuba Roadless Area and includes eight small drainage basins. This area vielded the highest anomalous values of silver, arsenic, gold, barium, copper, iron, and lead in panned concentrate. The suite of anomalous elements is associated with hydrothermal precious-metal vein-type mineralization. The Poker Flat lode gold mine and small areas of gold-be within the area sampled. The lode and placer mines within this large drainage basin may have contributed to the anomalies Saddleback Mountain anomaly (area F). Anomalous silver, copper, and tungsten River in the West Yuba Roadless Area, east of Saddleback Mountain. The suite of anomalous elements is indicative of hydrothermal precious-metal vein-type

GEOPHYSICAL STUDIES Aeromagnetic and gravity maps were prepared as a geophysical contribution

to the assessment of the mineral resource potential of the East Yuba and West Yuba Roadless Areas. The data were analyzed and interpreted by Andrew Griscom (unpub. data, 1981). Magnetic anomalies associated with the ultramafic rocks indicate that a continuous belt of these rocks extends beneath the younger volcanic rocks in the West Yuba Roadless Area. The magnetic data correlate with the geologic map and indicate the presence of ultramafic rocks concealed beneath the volcanic rocks in the Melones fault zone in the West Yuba Roadless Area. The ultramafic rocks are permissible hosts for deposits of chromite and lode gold. About eighteen small magnetite occurrences are included in the Sierra Iron "mine" (no. 34) near the north end of the East Yuba Roadless Area between Spencer and Hawley Lakes. These occurrences are associated with an anomaly of 200 gammas on the aeromagnetic map (Andrew Griscom, unpub. data, 1981). The low amplitude of this anomaly indicates that magnetite occurrences in this area are relatively small and provide no evidence of a potential for undiscovered iron resources.

Data on mines and prospects, which include analytical and production data and descriptions of workings, are summarized in table 1 of the pamphlet and described by White and others (1983). Identified gold resources are found at four properties in the East Yuba Roadless Area, at three properties in the West Yuba Roadless Area, and at the Craycroft Diggings on the eastern margin of the West Yuba Roadless Area. Of the 31 properties with identified resources, 12 are lode deposits and 19 are placer deposits.

The East Yuba and West Yuba Roadless Areas have identified gold resources

East Yuba Roadless Area

Lode mines and prospects consist of quartz stockworks, quartz fissure veins, and an iron (magnetite) skarn. Quartz stockworks, containing gold include the Sisson and Big Boulder mines. Quartz fissure vein deposits in the roadless area include the Empire and Willoughby mines and the Gold King prospect, and adjacent to the study area they include the Four Hills, Lone Star, and Garibaldi mines. All identified gold resources are subeconomic at a gold price of \$400 per troy oz. However, the Empire and Sisson mines contain values which indicate that further exploration is warranted. podiform magnetite and is unlikely to be mineable in the foreseeable future. the north end of the roadless area.

D-B-K prospect, and the Buckshot, Progessive, and Crescent mines. podiform chromite has also been reported at the Sebastapol prospect. occurrences of placer gold that are prospected on a seasonal basis. hosted gold, silver, and associated base metals. from three mines within 2 mi of the roadless area. There is no indication of a potential for coal, oil and gas, or geothermal resources in the roadless area.

Harte's book The Outcasts of Poker Flat, is on Canyon Creek at the northwest edge of the West Yuba Roadless Area.

Unconformably overlying the middle Shoo Fly unit is the Devonian Sierra Buttes Formation, a metamorphosed sequence of silicic pyroclastic rocks that includes lenses of fine-grained clastic rocks and black and white banded Two sets of gold-bearing en echelon fissure-filling quartz veins intrude the middle Shoo Fly unit and the Sierra Buttes Formation along a northnorthwest-trending belt. This belt includes the central and eastern parts of the East Yuba Roadless Area and extends from the Sierra City mining district

GEOCHEMICAL STUDIES

hydrothermal precious-metal vein-type mineralization. Hog Canyon anomaly (area B). The stream-sediment and panned-concentr camples are from a site in Hog Canyon in the southeast corner of the East Yuba

gold, and lead. The suite of anomalous elements indicates hydrothermal occur in panned concentrate from a drainage at the headwaters of the Downie

The regional gravity map (Oliver and others, 1982) provides no evidence for undiscovered metallic mineral resources.

MINES, PROSPECTS, AND MINERAL RESOURCES

West Yuba Roadless Area

content (Durrell and Proctor, 1948, p. 190-192).

between 1858 and 1980; more than 300 active placer and lode claims were recorded with the U.S. Bureau of Land Management in 1982. One claim of about 30 acres on the Herkimer property (no. 10) has been patented. Properties in the roadless area being prospected or mined in 1982 were the Clark Canyon, D-B-K, Buckshot, Sol Wood, Deep Moon, Progressive, Crescent, and One Day At A Time/Easy Does It (nos. 11, 12, 13, 15, 17, 18, 19, and 22). U.S. Bureau of Mines records indicate that the Tennessee, Gibraltar Deadwood Diggings, Golden Scepter, Bunker Hill, and Herkimer (nos. 3, 5, 6, 7, 9, and 10), all on Tertiary gravel, yielded approximately 1,500 oz of gold from 1892 to 1946. The Telegraph, Excelsior-Monte Cristo, Craycroft-Wideawake and Craycroft Diggings properties (nos. 14, 16, 21, and 23) are adjacent to the roadless area and located on segments of Tertiary channel gravel that may extend into the roadless area; they have recorded production of 15,200 oz of gold. Approximately 3 million yd³ of gold-bearing gravel are estimated to occur beneath volcanic cap rocks between the Excelsior and Monte Cristo properties. The Poker Flat lode mine (no. 2) has yielded at least 480 oz of gold. The Telegraph mine (no. 14), also adjacent to the roadless area,

Gibraltar, Deadwood Diggings, Golden Scepter, Bunker Hill, Herkimer, Telegraph, Sol Wood, Excelsior-Monte Cristo, Golden King, Craycroft-Wideawake, One Day At A Time/Easy Does It, and Craycroft Diggings properties (nos. 1, 3, 5, 6, 7, 9, 10, 14, 15, 16, 20, 21, 22, and 23). Segments of channel gravel are as much as 160 ft thick, 1,460 ft wide, and 5,000 ft long. Gold is concentrated primarily in the bottom part of the channels, along the line of maximum depth. The gold typically occurs as subangular to rounded pieces weighing from 0.1 mg to 100 mg, although much larger nuggets have been mined from the Tertiary channels in the vicinity. The Clark Canyon, D-B-K, Buckshot, Deep Moon, Progressive, and Crescent properties (nos. 11, 12, 13, 17, 18, and 19) are on gold-bearing bench gravel. Deposits of bench gravel are remnants of Holocene flood plains and occur above the level of active stream channels. Gold occurs as rounded pieces typically weighing from 0.1 mg to 100 mg and is concentrated in the lowest parts of the

Placer gold occurs in segments of Tertiary channel gravel, in bench

gravel, and in active drainage channels. Tertiary channel gravel in and adjacent to the roadless area is exposed at the New California, Tennessee,

ASSESSMENT OF MINERAL RESOURCES AND RESOURCE POTENTIAL East Yuba Roadless Area

The East Yuba Roadless Area has identified lode gold and silver resources and includes areas having a low to high potential for undiscovered resources of gold and silver. There are scattered iron (low-tonnage magnetite) occurrences in the northern part of the roadless area, but there is no evidence of a potential for undiscovered iron resources. There is a low to moderate potential for small deposits of chromite in areas of ultramafic

mines (nos. 31, 36, 38) contain about 190,000 tons of subeconomic lode gold

and silver resources. Additional resources are likely in unexplored parts of

the veins at these mines. At the Sisson mine, approximately 120,000 tons of

indicated and inferred subeconomic resources averaging 0.10 oz gold per ton occur in stockworks that form a 2- to 20-ft-thick mineralized zone. The Willoughby mine has 7,000 tons of indicated and inferred subeconomic resources containing 0.36 oz gold and 0.07 oz silver per ton in a vein that averages 0.7 ft thick. The Empire mine has 63,000 tons of indicated and inferred subeconomic resources averaging 0.23 oz gold and 0.18 oz silver per ton in a vein that averages 3 ft thick. The Four Hills mine (no. 33), adjacent to the roadless area, contains about 600,000 tons of quartz averaging 0.02 oz per ton gold and 0.10 oz per ton silver in veins and stockworks. Further exploration may reveal additional resources. Resources are subeconomic at a gold price of \$400 per troy oz. Lode gold and silver resources may exist at the Big Boulder, Lone Star, Garibaldi, and Gold King properties (nos. 32, 35, 37, 39), on the basis of analyses of samples from mines and nearby areas, the extent of veins and mineralized ground, favorable geologic setting within a mineralized belt, and proximity to mines with gold and silver resources in similar geologic setting. The Sierra Iron mine (no. 34) contains about 46,000 tons of podiform

magnetite averaging 21 percent iron content. The small tonnage, low grade, and sporadic distribution of the occurrences will preclude their development. Geophysical data provide no evidence of a potential for undiscovered from resources. Two large areas having a low to moderate potential for lode gold and silver resources were delineated in the central and eastern parts of the East Yuba Roadless Area on the basis of nearby lode gold deposits, favorable geologic setting, and the presence of quartz veins in the areas. The Whipoorwill prospect (no. 24), in the northern part of the East Yuba Roadless Area, contains approximately 65,000 yd of indicated and inferred subeconomic placer gold resources in bench gravel that averages \$0.85 (0.002 oz) gold per yd using a value of \$400 per ounce. More than 500,000 yd³ of bench gravel containing placer gold occurrences were identified at the Rebate, Upper Lavezzola Creek, Potluck I and II, and Little Bear properties (nos. 25, 26, 27, 28). Development of these bench gravels is unlikely without either a significant increase in the price of gold above \$400 per oz or identification of higher grade zones. Active channels of Lavezzola and Pauley Creeks contain occurrences of placer gold and are being prospected with suction dredges on a seasonal basis; however, gravel volumes are small. Significant gold occurrences are unlikely along most active stream

There has been no mining of Tertiary channel gravel in the East Yuba Roadless Area, and geologic mapping revealed no indications of Tertiary gravel. However, the Tertiary channels are typically overlain by volcanic rocks, and there is a low potential for placer gold in Tertiary channel gravel beneath volcanic rocks at the north end of the roadless area. Geochemical studies indicate that three small drainage basins (areas A, B, C) in the East Yuba Roadless Area have a low to moderate potential for There is a low to moderate potential for small deposits of podiform chromite and gold in veins in ultramafic rocks that occur in the western part of the East Yuba Roadless Area. Sand and gravel occur along present stream drainages; however, other

West Yuba Roadless Area

The West Yuba Roadless Area contains identified placer gold resources,

and there is a low to high potential for undiscovered placer gold resources.

Geochemical data indicate three areas having a low to moderate potential for

There is no evidence of a potential for coal, oil and gas, or geothermal

sources contain greater volumes of material and are more accessible and closer

resources of base and precious metals. There is a low to moderate potential for gold and chromite resources in ultramafic rocks. Tertiary channel deposits at the Sol Wood and One Day At A Time/Easy Does It mines (nos. 15 and 22) total 76,000 yd³ of indicated and inferred subeconomic placer gold resources; these may extend outside the roadless area to the Craycroft-Wideawake mine and Craycroft Diggings (nos. 21 and 23). The Craycroft Diggings contain about 200,000 yd 3 of inferred subeconomic placer gold resources averaging 0.0038 oz per yd within 10 ft of bedrock. Additional placer gold resources are likely in Tertiary gravel at the Sol Wood and Craycroft-Wideawake mines. The New California, Tennessee, Gilbraltar, Deadwood Diggings, Golden Scepter, Bunker Hill, Telegraph, and Herkimer mines and the Golden King prospect (nos. 1, 3, 5, 6, 7, 9, 10, 14, and 20) are also in segments of Tertiary gravel. Placer gold resources are likely at these properties on the basis of (a) distribution and values of placer gold in the gravel, (b) remaining volume of gravel, and (c) past production. Approximately 3 million yd of gravel is estimated to occur beneath volcanic cap rocks between the Excelsior and Monte Cristo properties (no. 16). The gold-bearing Tertiary channels are mostly covered by younger volcanic flows. Areas beneath these flows have a low potential for placer gold in gravel in buried Tertiary channels. Exploration and mining would be severely hampered by the thickness of volcanic overburden. The Deep Moon mine (no. 17), which was being explored in 1982, contains 36,000 yd³ of indicated marginal reserves of bench gravel that average \$3.10

per yd3 at a gold price of \$400 per troy oz. The Clark Canyon, D-B-K, Buckshot, Progressive, and Crescent properties (nos. 11, 12, 18, and 19) are deposits of bench gravel that have been extensively mined. Sampling indicates that remaining bench gravel contains only erratically distributed and generally subeconomic gold values. A low to moderate potential exists for gold resources in fissure filling quartz veins associated with serpentinite in the Melones fault zone. The Poker Flat mine (no. 2) contains an estimated 500,000 tons of subeconomic low-grade gold-bearing quartz in veins. Additional lode gold resources are likely on the basis of (a) distribution and extent of quartz veins, (b) past production records, and (c) analysis of dump samples that averaged 0.15 oz gold per ton. Quartz veins at the Mammoth No. 1 (800 tons of subeconomic resources averaging 0.023 oz gold per ton) and Sebastapol prospects (nos. 4, 8) are not as extensive as those at the Poker Flat mine, although gold resources may exist in unexplored parts of the fault zones. Chromite was produced from ultramafic rocks in the Melones fault zone at the White Bear, Golconda, and Oxford mines, located south of the West Yuba Roadless Area. Aeromagnetic data indicate that the ultramafic rocks, which host the chromite deposits, extend beneath younger volcanic rocks in the western part of the roadless area. A low to moderate potential for chromite resources in the West Yuba Roadless Area is indicated by this extension of the ultramafic rocks and the proximity of chromite in mineable quantities south of

the roadless area Geochemical studies indicate that three drainage basins (areas D, E, F) in the West Yuba Roadless Area have a low to moderate potential for base and precious metals in veins. Sand and gravel occur in large volumes in Tertiary channel segments and in present drainages in the roadless area; however, other sources of these commodities are more accessible and closer to existing markets. There is no indication of potential for coal, oil and gas, or geothermal resources.

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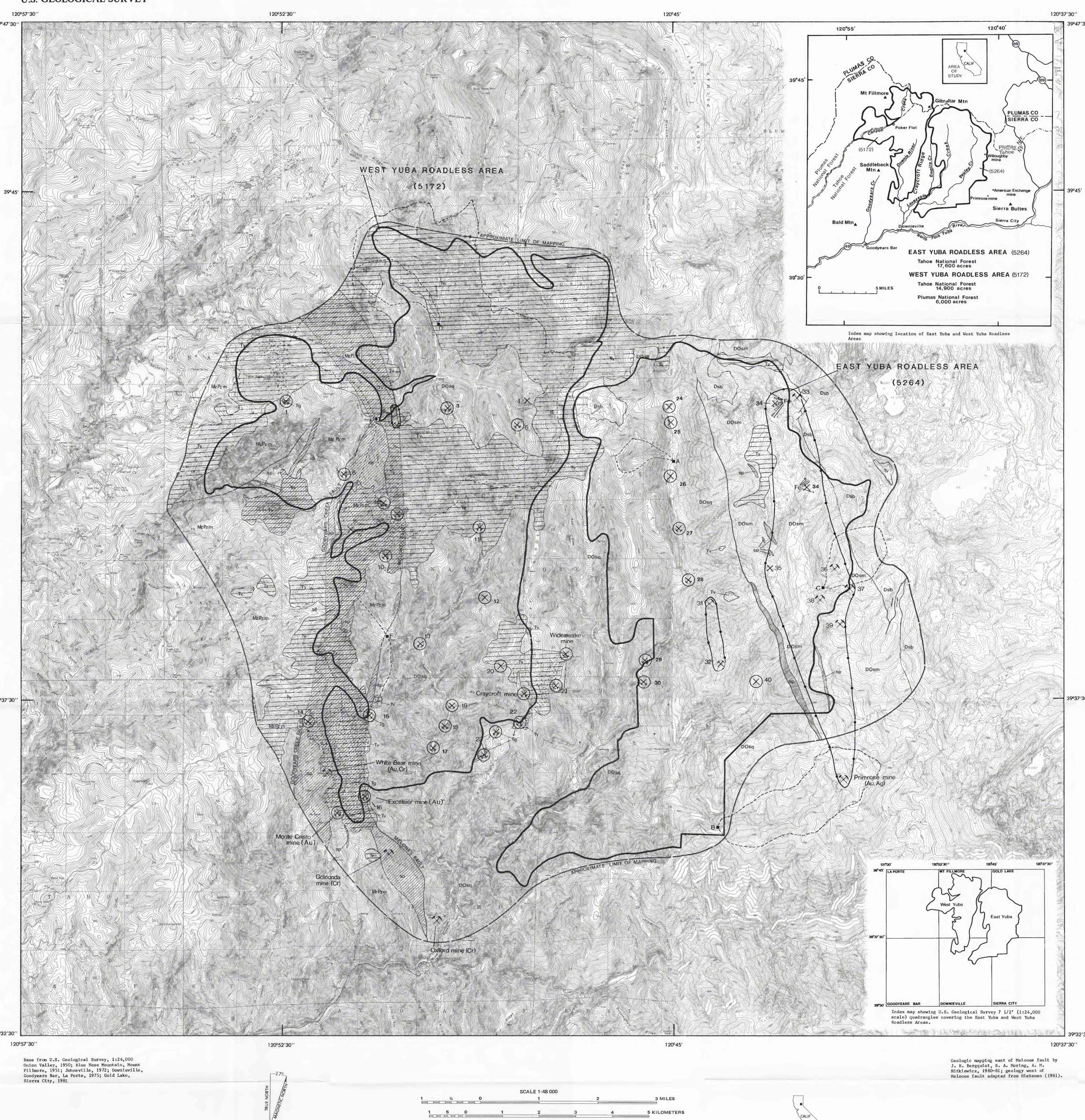
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Explanatory pamphlet accompanies map

Interior-Geological Survey, Reston, Va. - 1986 For sale by Branch of Distribution, U.S. Geological Survey, Box 25286, Federal Center, Denver, CO 80225



MINERAL RESOURCES AND RESOURCE POTENTIAL MAP OF THE EAST YUBA AND WEST YUBA ROADLESS AREAS, PLUMAS AND SIERRA COUNTIES, CALIFORNIA

AREA OF MAP

CONTOUR INTERVAL 40 FEET

DECLINATION, 1986

NATIONAL GEODETIC VERTICAL DATUM OF 1929

Joel R. Bergquist, Andrew Griscom, and Susan S. Page U.S. Geological Survey

and

William W. White III and Douglas F. Scott U.S. Bureau of Mines

1986